

AUTO DESIGNS LITTLE CHANGED

This Year's Refinements
Due in Large Part to Pro-
duction Demands

(By A. R. ERSKINE)

In discussing the subject of the trend of design, production must be coupled with it, because the high standard of the present-day product is due as much to progress in production methods as it is to design. Designers must be aided by metallurgists, chemists and production engineers in the selection of materials and the manufacture of motor cars. The designer or engineer does not live who singly can make all decisions affecting the creation and production of an automobile, and hence, large staffs of numerous technicians are employed by the big manufacturers to solve engineering and production problems.

These men of the automobile industry have made remarkable discoveries, inventions, and applications of science in the development of combustion engines, carbon steel, alloy metals, storage batteries and motor cars generally. In the past ten years, their genius has revolutionized many practices in the steel industry. The evolution of ten years has put the American motor car upon a pinnacle that sets the standard of the world. At the recent automobile shows in London and Paris, numerous American designs were quite in evidence in European cars.

YANKEE IDEAS WIN
Such accepted things as cast en bloc motors, detachable heads, electric starting, battery ignition, are just being adopted abroad, and additional proof of American leadership is found in the increasing preference our motor cars receive in all foreign countries, including even the home markets of European industrial countries. American motor cars now rank first in value of United States exports of manufactured articles, and half our exports are to Great Britain and her dominions.

The popular idea that airplane motor production taught our automobile engineers and manufacturers much about engines for motor cars is quite erroneous. The requirements of motors for airplanes are quite different from those for automobiles. Airplane motors must be very light and very powerful, with capacities ranging from 250-450 horsepower, while noise is not considered objectionable. The Liberty motor, one of the finest made, weighs about two pounds per horsepower developed, but 100 flying hours would wear it out, so that it must be rebuilt. There were no new methods used in the designing, casting, forging machining and assembling of this motor.

The first essential in automobile motors is durability, and hence they weigh about ten pounds per horsepower developed. Great power is unnecessary, and hence the range is from thirty to sixty horsepower, and quietness is imperative, as nobody would ride in an automobile with a noisy engine.

In the designing of a motor car, two fundamental requirements are observed, and engineers of different technique are required, for the chassis and for the body. Mechanical excellence is no more important than artistic appearance, and hence the chassis and body must emerge into a harmonious whole. The appearance of an automobile, especially as to its body and color, of painting, is, in fact, frequently the determining point in a sale, because many persons buy automobiles, which, in their eyes are good looking, without knowing anything about their mechanical design and construction. Dependence in such cases is placed in the reputation of the manufacturer.

TWO FUNDAMENTALS
Body engineers have this year produced some remarkably fine examples of the coach builders' art. In fact, it may be said that they have considerably improved upon it, because the strength, solidity, deep upholstery, general fitness and comfort of automobile body requirements have developed far beyond the practices of coach building days. In quality, stylish appearance, comfort and completeness, the automobile bodies of today are ahead of anything yet done in the industry.

In the matter of chassis design, no important departures have been made from the accepted standards of the past few years, although refinements have been adopted in numerous directions with the object of improving efficiency. So successful have been the results in motor construction especially that present-day motors are infinitely more efficient than those of previous years. They burn poorer gasoline without trouble, give greater mileage, vibrate less, are quieter and are more durable. A good motor nowadays will stand years of hard service without giving much trouble.

FINE MATERIALS USED
Something not generally known outside of the trade is the fact that all motors, from the highest to the lowest priced, are made of substantially the same quality of metals. Practically all manufacturers use grey iron castings for motor blocks, pistons, flywheels, carbon steels for crankshafts, connecting rods, camshafts; alloy steel for gears, steering knuckles, springs, sheet steel for bodies, fenders, hoods, simply because these are the best known metals for their individual purposes. There is little difference in the per pound cost of these metals as between high and low priced cars. In the matter of upholstery, the finest leather and materials are used in numerous moderate priced cars. The machining methods and mechanical practices observed in factories of quantity producers measure up to the highest standards in the industry.

In motor design, six-cylinder engines lead in popularity in the United States.

ROULETTE WHEEL WAS HOME-MADE ONE

KEY WEST, Fla., March 25.—May-be they've stopped making roulette wheels, or perhaps Manuel Gonzalez, operator of a coffee shop here, didn't have a catalog showing where one might be obtained. Anyway, such inconveniences didn't bother Manuel when he decided to install one in the rear of his place recently. Officers raided the shop, seized the layout and upon examination discovered the wheel was home made, manufactured from a disc graphophone record. The record had been painted, had numbers from 1 to 36, and officials who scraped some of the paint away discovered it was originally a vocal rendition of "There's No Place Like Home."

Gonzalez failed to tell the court whether the title of the hidden song was a warning to those who backed the wheel or whether he regarded it as a lucky omen for the "house."

Jugoslavia is making plans for an extensive scheme of railroad electrification.

New motor developed by a French firm is the smallest bicycle engine produced to date.



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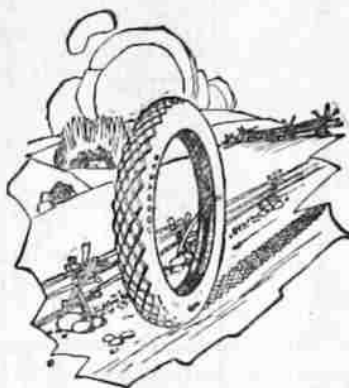
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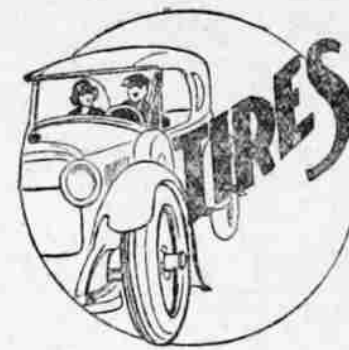
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